GGGGGGGGGGGGGTCAGAGGGAGCTTTCTTTTAGGCCCCGTCCATCTGTGAATCTAACCTCAGT TTCTGGGAATCAGGAAGCATGCATCTCCTCTTAGTTCAGCTGCTTGTTCTCTTGCCTCTGGGGA AGGCAGACCTATGTGTGGATGGCTGCCAGAGTCAGGGCTCTTTATCCTTTCCTCCTAGAAAG GGGTCGCAGAGATCTCCACGTGGCCAACCACGAGGAGGCAGAAGACAAGCCGGATCTGTTTGTG GCCGTGCCACACCTCATGGGCACCAGCCTGGCTGGGGAAGGCCAGAGGGCAGAGAGGGAAGATGC TGTCCAGGCTTGGAAGATTCTGGAAGAAACCTGAGACCGAATTTTACCCCCCAAGGGATGTGGA AGATCACCTCTACAGGAGGAAGCCAAGAGGTTCTGGCATCGGTTCATGTTCAGAAAGGGCCCGG ${\tt CGTTCCAGGGAGTCATCCTGCCCATCAAAAGCCACGAAGTACACTGGGAGACCTGCAGGACTGT}$ GCCCTTCAACCAGACCATTGCCCATGAAGACTGTCAAAAAGTCGTTGTCCAGAACAACCTTTGC TTTGGCAAATGCAGTTCCATTCGTTTTCCCGGAGAAGGGGCAGATGCCCACAGCTTCTGCTCCC ACTGCTCGCCCACCAAATTCACCACCGTGCACTTGATGCTGAACTGCACCAGCCCAACCCCCGT GGTCAAGATGGTGATGCAAGTAGAAGAGTGTCAGTGCATGGTGAAGACGGAACGTGGAGAGGAG CATGAATTACCTCAACAGAAAGCAAAACCTCAACAGAATAAGTGAGGGTTATTCAATCTGGAAA CACACACACACACACACACACATGTTTGTGTTTAGACAGGGTCTTATGTATTCTCAGCTGGC CTCAAACTCACAATGTGGCTGGGGATGATTTTAAACTCCTGATCCAATTCCTGAGTGCTGGGAT TACAGACATGCTCCATAANACATAGCTCCCAGAAGGATTTTTAAAAAGAGATTTTGCATGTTTCA AAGTTGCCTTTGAGACTCAGAAATATTTTGATNTATTGAATGGCCTTGCCACAGATGTGGGAGG ACTGTTGGTTATCTGGCGTTGAAGAAGGAATAGTGAAGGTACTTTTAACAGTTTACACGTGGAA GGGGCTCAGGCACTAGGAACCAACCTTTTCCCGGAATATGAGGAAAATACATGAACAGTATTAG AGTCACTTGAGGAAGTTACTAGGAAACGCCATAAGTCTCCAAGTACATTGTGAGTCATTTTGAA GGACAATCGTGTATATAGACGAAATCTTCTACTCGTATGCTTTTGAATCTTCTAGCAAGTTAGG ${\tt TTTCTATGTTTGGGCTTCTTCCTATTGTCTAAGAGTATGTGTGACAAATTCAACCTGACAAATA}$ CCTCAATGGCAAATTCTGACCCTG (SEQ ID NO:1)

MHLLLVQLLVLLPLGKADLCVDGCQSQGSLSFPLLERGRRDLHVANHEEAEDKPDLFVAVPHLM GTSLAGEGQRQRGKMLSRLGRFWKKPETEFYPPRDVESDHVSSGMQAVTQPADGRKVERSPLQE EAKRFWHRFMFRKGPAFQGVILPIKSHEVHWETCRTVPFNQTIAHEDCQKVVVQNNLCFGKCSS IRFPGEGADAHSFCSHCSPTKFTTVHLMLNCTSPTPVVKMVMQVEECQCMVKTERGEERLLLAG SQGSFIPGLPASKTNP (SEQ ID NO: 2)

FIGURE 1



Construct

Gn:

67

GI Number(s): 6753409

Gen Family:

ly:

Growth Factor Inhibitor

G n Subfamily:

Cerberus

G n Sequence:

full length cDNA, Mouse

underlined = deleted in targeting construct

[] = sequence flanking Neo insert in targeting construct

 $\verb§[GGGGGGGGGGGGGTCAGAGGGAGCTTTCTTTAGGCCCGTCCATCTGTGAATCTAACCT]$$ CAGTTTCTGGGAATCAGGAAGCATGCATCTCCTCTTAGTTCAGCTGCTTGTTCTCTTGCC TCTGGGGAAGGCAGACCTATGTGTGGATGGCTGCCAGAGTCAGGGCTCTTTATCCTTTCC TCTCCTAGAAAGGGGTCGCAGAGATCTCCACGTGGCCAACCACGAGGAGGCAGAAGACAA] GAGGCAGAGAGGGAAGATGCTGTCCAGGCTTGGAAGATTCTGGAAGAAACCTGAGACCGA ATTTTACCCCCCAAGGGATGTGGAAAGCGATCATGTCTCATCGGGGATGCAGGCCGTGAC TCAGCCAGCAGATGGGAGAAAGTGGAGAGATCACCTCTACAGGAGGAAGCCAAGAGGTT CTGGCATCGGTTCATGTTCAGAAAGGGCCCGGCGTTCCAGGGAGTCAT [CCTGCCCATCAA AAGCCACGAAGTACACTGGGAGACCTGCAGGACTGTGCCCTTCAACCAG] ACCATTGCCCA TGAAGACTGTCAAAAAGTCGTTGTCCAGAACAACCTTTGCTTTGGCAAATGCAGTTCCAT TCGTTTTCCCGGAGAAGGGGCAGATGCCCACAGCTTCTGCTCCCACTGCTCGCCCACCAA ATTCACCACCGTGCACTTGATGCTGAACTGCACCAGCCCAACCCCCGTGGTCAAGATGGT GATGCAAGTAGAAGAGTGTCAGTGCATGGTGAAGACGGAACGTGGAGAGGAGCGCCTCCT AATTACCTCAACAGAAAGCAAAACCTCAACAGAATAAGTGAGGGTTATTCAATCTGGAAA CACACACACACACACACACACACACACACATGTTTGTGTTTAGACAGGGTCTTATGTA TTCTCAGCTGGCCTCAAACTCACAATGTGGCTGGGGATGATTTTAAACTCCTGATCCAAT TCCTGAGTGCTGGGATTACAGACATGCTCCATAANACATAGCTCCCAGAAGGATTTTTAA AAGAGATTTTGCATGTTTCAAAGTTGCCTTTGAGACTCAGAAATATTTTGATNTATTGAA TCCCGGAATATGAGGAAAATACATGAACAGTATTAGAGTCACTTGAGGAAGTTACTAGGA AACGCCATAAGTCTCCAAGTACATTGTGAGTCATTTTGAAGGACAATCGTGTATATAGAC GAAATCTTCTACTCGTATGCTTTTGAATCTTCTAGCAAGTTAGGTTTCTATGTTTGGGCT TCTTCCTATTGTCTAAGAGTATGTGTGACAAATTCAACCTGACAAATACCTCAATGGCAA ATTCTGACCCTG (SEQ ID NO:1)

Gene Sequence Structure *

241 bp

Seguence Deleted

528 bp

Size of full-length cDNA: 1752 bp

FIGURE 2A



Targeting Vector* (genomic sequence)

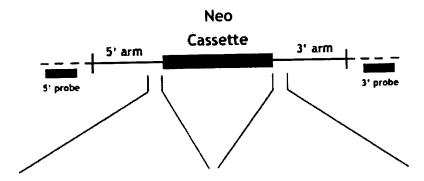
Construct Number: 269

Arm Length:

5': 2 kb 3': 1.7 kb

_____ Targeting Vector
_ _ _ _ Endogenous Locus

* Not drawn to scale



5'>TCCATCTGTGAATCTAACCTC
AGTCTCTGGGAATCAGGAAGCATG
CATCTCCTCTTAGTTCAGCTGCTT
GTTCTCTTGCCTCTTGGGAAGGCA
GACCTATGTGTGGATGCTGCCAG
AGTCAGGGCTCTTTATCCTTTCCT
CTCCCAGAAAGGGGTCGCAGAGAT
CTCCACGTGGCCAACCACGAGGAG
GCAGAAGACAAA<3' SEQ ID NO:

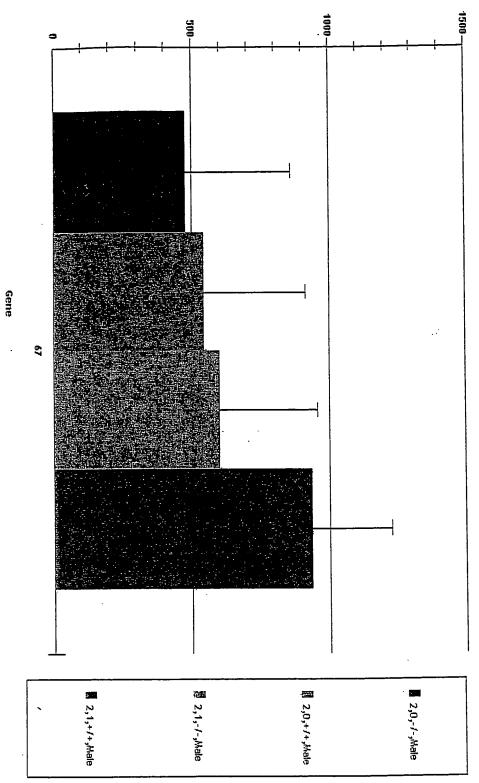
5'>CCTGCCCATCAAAAGCCACGA AGTACACTGGGAGACCTGCAGGAC TGTGCCCTTCAACCAGGTATGCAT TCTAGAGGGTAAACCACCAGTTTG CCAGACAGGGAGGACAGCTGGACA GCTAGGACAAACGGCAAAATAGAA AGAGTCTGGCGAGAGCTCGGGCCT TGTCTAGTTCCAGATTCAGTCCTT TGGGTATTCAT<3' SEQ ID NO:

FIGURE 2B



FIGURE 3





Phenotypic Data Summary - Open Field



Phenotypic Data Summary - Tail Suspension